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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,891

04/08/2004

Victor F. Man

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8889

43896

7590

10/12/2006

EXAMINER

KUMAR, PREETI

ECOLAB INC.

MAIL STOP ESC-F7, 655 LONE OAK DRIVE

EAGAN, MN 55121

ART UNIT

PAPER NUMBER

1751

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/820,891

Applicant(s)

MAN ET AL.

Examiner

Preeti Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/29/2005 and 7/30/2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Non-Final Rejection***

1. Claims 1-27 are pending. Claims 1 and 15 are independent.

### ***Drawings***

2. The drawings were received on 4/8/2004. These drawings are accepted.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 4/29/2005 and 7/30/2004, was filed after the mailing date of the specification on 4/8/2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. However, the examiner would like to point out that it has been held in the courts that the "applicant has [an] obligation to call the most pertinent prior patent to [the] attention of [the] Patent Office in a proper fashion." [Penn Yan Boats, Inc. V. Sea Lark Boats, Inc., et al. 175 USPQ 260 (DC SFla 1972)]. The examiner would appreciate the applicant identifying why the 78 cited references are pertinent including relevant portions of the documents cited.

### ***Claim Objections***

4. Claims 11-14 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 11 –14

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dependent on claim 1 recite limitation to physical stability for at least about 10, 14, 21 and 7 days however, claim 1 already recites stability for at least 25 days after forming the composition. Thus the limitations of claims 11-14 do not further limit the range of claim 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-2, 4-16, 18-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wei et al. (WO 99/47631).

Wei et al. teach the use of enzyme containing solid detergent compositions that can be used to remove food soil from typically food or foodstuff related manufacturing equipment or processing surfaces without the use of corrosives such as chlorine. In particular, the invention relates to the removal of milk proteins from dairy processing equipment. The invention further relates to the use of said composition in a clean-in-

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place system in which electrical conductivity is used to control the concentration of detergent within the system. Although various enzymes can be used, the preferred embodiment of the invention uses proteases to assist in removing the milk proteins from the processing equipment. The protease is stabilized by including sodium borate, sucrose, milk or the combination thereof in the use solution. The sodium borate also functions as an aid to solidification, as a buffering agent and also functions as an alkalinity source. See abstract.

Specifically regarding the enzyme, Wei et al. teach hydrolases such as esterases, carbohydrases, and proteases. See pages 22,ln.4 to page 24.

Regarding the boric acid salt, Wei et al. teach various alkali metal borate salts in an amount of 1% to about 99% by weight of water can act as stabilizing agents for the enzyme materials. See top paragraph on page 26 and page 25,ln.7.

Wei et al. teach that the compositions have good cleaning ability when dispensed or dissolved in water and suggest liquid compositions in general. See page 46,ln.35-page.47. Wei et al. teach that the pH of the composition is about 9.0 to 10. See page 50,ln.1.

Regarding the surfactant, Wei et al. teach the claimed alcohol alcoxylate surfactants on page 34 and various other surfactants on pages 26-46.

Specifically regarding the adjunct ingredients, Wei et al. teach various polyols and carbonate and bicarbonate builders. See pages 47-48.

In the table on page 54, in formulations 5-9, Wei et al. illustrate 86% to 110% enzyme activity, and thus enzyme stability is present over twelve days under comparatively severe conditions. See page 54 and page 49,ln.23-24.

The prior art, Wei et al., are silent as to the claimed properties of the liquid enzyme cleaning composition and do not explicitly teach the limitations that the deterative enzyme retains 75% of its initial enzyme activity at ambient temperature for at least about 25 days after forming the composition. However, it is reasonable to presume that said limitations are encompassed by the invention of Wei et al. because the presumption is supported by the use of similar materials (i.e. surfactant, deterative enzymes and boric acid salt and water) and in the similar production steps (i.e. mixed together) to produce the clean-in- place composition. The burden is upon the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. Accordingly the teachings of Wei et al. anticipate the material limitations of the instant claims.

In the alternative, the claimed properties of the deterative enzyme would obviously have been provided by the composition as disclosed by Wei et al. because Wei et al. teach compositions having superior enzyme activity stability which stability is present over 12 days under severe conditions. See page 49,ln.20-24.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made to arrive at a composition comprising a deterative enzyme retaining 75% of its initial enzyme activity at ambient temperature for at least about 25 days after forming the composition as recited by the instant claims, with a reasonable expectation of success and similar results, because Wei et al. suggest compositions comprising the

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claimed components having superior enzyme activity stability which stability is present over 12 days under severe conditions.

8. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linard et al. (US statutory invention registration H1776) in view of Blake et al. (US 5,648,329).

Linard et al. teach heavy duty, enzyme-containing, aqueous liquid detergent including amphoteric surfactants, protease enzymes and an enzyme stabilizing system. The detergent has a neat liquid pH of 9.5 or greater, a solution pH of 8.5 or greater. See abstract, col.5, ln.1 and col.7, ln.10-40 and 60-65. Linard et al. teach that the composition may contain builders, polyols, 0.1% to about 10% alkanolamines and boron compounds. See col.6-7.

In table 5, Linard et al. illustrate cleaning performances of various compositions based on enzyme cleaning performance in the casein test cloth column and alkalinity cleaning performance in the fatty acid/vacuum cleaner dust cloth column. Example composition I comprises monethanolamine, triethanolamine, borax pentahydrate and alkaline protease having a value of 76 in casein test cloth cleaning illustrating effective enzyme cleaning performance. See table 5. Furthermore, Linard et al. teach that compositions I-VII have the unique combination of high alkalinity, high alkalinity reserve and enzyme effectiveness.

In col.13, Linard et al. teach that the compositions VIII and IX have good stability after storage at elevated temperatures for 4 weeks. See col.13,ln.44-45. It is reasonable to presume that the compositions of Linard et al. would be expected to have

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75% activity at ambient temperature after atleast about 25 days since the teachings of Linard et al. teach that extremes in temperature did not affect the functional stability of the composition.

Linard et al. do not specifically teach a liquid enzyme composition that retains 75% of its initial enzyme activity at ambient temperature for at least about 25 days as recited by the independent claim 1. Linard et al. do not teach a cleaning composition comprising 10 to 20% alkanolamine borate as recited by the instant claims 3 and 17.

Blake et al. teach a liquid premix for use in a detergent composition comprising at least 40% by weight of polyhydroxy fatty acid amide and an effective amount of borate-containing material to prevent crystalization and/or precipitation of the liquid premix when stored for at least 2 weeks at 20°C. See abstract. Also, regarding stability, Blake et al. teach that the hydrolytic degradation of the amide at 35 °C typically results in a decrease in the amide level of about 4% per month. However, the premix can be stored at 20 °C, at which temperature the decrease in the level of amide is less than 1% per month. See col.4, ln.40-46.

Blake et al. teach concentrated mixtures of polyhydroxy fatty acid amides which can be stored in a stable liquid form at temperatures below 35 °C, preferably about 20 °C -30 °C and which are pumpable. See col.3, ln.1-15.

Blake et al. teach that the borate functional material can be borax or boric acid or sodium metaborate, and monoethanolamine borate. See col.4, ln.14. Blake et al. teach an "effective amount" of the borate material is an amount that maintains the premix as a stable liquid and provides a premix viscosity in the desired range below about 20 000



mPas. Typically, from about 3% to about 30% of borate will suffice, preferably from about 5% to about 10%. See col.3, ln.42-45.

In example 3, Blake et al. teach boric acid powder which is free of sodium ions. Blake et al. specifically teach 16% water is used to prepare the monoethanolamine solution. Also one of ordinary skill in the art would have been motivated to optimize the amount of water in the composition, since Blake et al. suggest dissolving the borate material in water.

It would have been obvious to one of ordinary skill in the art, to formulate a liquid enzyme composition that retains 75% of its initial enzyme activity at ambient temperature for atleast 25 days as recited by the independent claim 1 because the teachings of Linard et al. suggest that it is beneficial to incorporate enough alkalinity reserve into the formulation to maintain a high pH when diluted to about a 0.2% solution in water and maintain good stability after storage at elevated temperatures for 4 weeks. See col.2, ln.1-5 and col.10,ln.40-50 and col.11,ln.55-65 and col.13,ln.44-45. It is reasonable to presume that the compositions of Linard et al. would be expected to have 75% activity at ambient temperature after at least about 25 days since the teachings of Linard et al. teach that extremes in temperature did not affect the functional stability of the composition.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made to arrive at a cleaning composition comprising 10 to 20% alkanolamine borate as recited by the instant claims 3 and 17, with a reasonable expectation of success and similar results, because Blake et al. teach a cleaning

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composition comprising borate functional material including borax or boric acid or sodium metaborate, and monoethanolamine borate, and Linard et al. teach alkali metal borates including borax in general. One of ordinary skill in the art would have been motivated to combine the teachings of Linard et al. with that of Blake et al. because Linard et al. suggest various boron compounds for use in the alkaline composition.

9. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wei et al. (WO 99/47631) in view of Blake et al. (US 5,648,329).

Wei et al. are relied upon as set forth above.

Wei et al. do not teach the claimed boric acid salt comprising the claimed ammonium borates as recited by the instant claims 3 and 17.

Blake et al. are relied upon as set forth above.

to arrive at a cleaning composition comprising 10 to 20% alkanolamine borate as recited by the instant claims 3 and 17, with a reasonable expectation of success and similar results, because Blake et al. teach a cleaning composition comprising borate functional material including borax or boric acid or sodium metaborate, and monoethanolamine borate, and Wei et al. teach alkali metal borates including borax in general. One of ordinary skill in the art would have been motivated to combine the teachings of Wei et al. with that of Blake et al. because Wei et al. suggest various boron compounds for use in the alkaline composition.

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**Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and cumulative to or less pertinent than those relied upon or discussed above.

11. Applicant is reminded that any evidence to be presented in accordance with 37 CFR 1.131 or 1.132 should be submitted before final rejection in order to be considered timely. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Preeti Kumar whose telephone number is 571-272-1320. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Mc Ginty can be reached on 571-272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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SUPERVISORY PATENT EXAMINER

1751

Examiner Preeti Kumar P.K.  
Art Unit 1751